

What is claimed is:

1. A dialogue processing system for performing a dialogue with a user, comprising:

a plurality of slots, each said slot being a storage area for storing a preset information item which is required to achieve an aim of said dialogue with said user;

an analyzer for extracting information corresponding to said information item from information entered by said user in said dialogue and for storing the extracted information in the slot for that information item; and

a response processor for outputting response information to said user in accordance with information storage state of said slots.

2. The dialogue processing system set forth in claim 1, further comprising:

a knowledge base relating to the dialogue with said user; and

a knowledge base processor for extracting information corresponding to information items insufficient to achieve the aim of the dialogue with said user by using information stored in said slots and information stored in said knowledge base and for storing the extracted information in the slot for that insufficient information item.

3. The dialogue processing system set forth in claim 1, further comprising:

a knowledge base relating to the dialogue with said user; and

means for confirming conformity of information stored in said slots and the information stored in said knowledge base by using the information stored in said slots and the information stored in said knowledge base.

4. The dialogue processing system set forth in claim 1, wherein said information entered by said user in said dialogue is a sentence in natural language, and

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a voice recognition processor for converting said the voice information into character information; and

a voice synthesis processor for converting said response information into voice information.

8. The dialogue processing system set forth in claim 1, wherein, in accordance with said information storage state of said slots, said response processor outputs response information for requesting said user to enter information items that are insufficient to achieve the aim of the dialogue with said user.

9. A storage medium for storing a program for processing a dialogue with a user, said program comprising the steps of:

ensuring a plurality of slots on a storage device, each said slot being a storage area for storing a preset information item which is required to achieve an aim of said dialogue with said user;

extracting information corresponding to said information item from information entered by said user in said dialogue and storing the extracted information in the slot for that information item; and

outputting response information to said user in accordance with information storage state of said slots.

10. The storage medium set forth in claim 9, said program further comprising the steps of:

extracting information corresponding to information items insufficient to achieve the aim of the dialogue with said user by using information stored in said slots and information stored in a knowledge base relating to the dialogue with said user; and

storing the extracted information in the slot for that insufficient information item.

11. The storage medium set forth in claim 9, said program further comprising a step of:

confirming conformity of information stored in said slots and the

information stored in a knowledge base relating to the dialogue with said user by using the information stored in said slots and the information stored in said knowledge base.

12. The storage medium set forth in claim 9, wherein said information entered by said user in said dialogue is a sentence in natural language, and wherein said extracting and storing step comprises the steps of:

performing morpheme analysis for said sentence;

performing parsing processing for the results of said morpheme analysis; and

extracting information corresponding to the information item based on the results of the morpheme analysis and the parsing processing by using an extraction rule pre-defined to achieve the aim of the dialogue with said user.

13. The storage medium set forth in claim 9, said program further comprising the steps of:

determining whether information stored in a knowledge base relating to the dialogue with said user is necessary to be updated if the information items required to achieve the aim of the dialogue with said user are stored in all of said plurality of slots; and

updating said knowledge base in accordance with a predetermined rule if it is determined that the information stored in said knowledge base is necessary to be updated.

14. The storage medium set forth in claim 9, wherein said outputting step comprises the steps of:

determining the information storage state of said slots; and

acquiring and outputting response information for the user in correspondence with the information storage state of the slots from a response information storage device for storing response information for a user in correspondence with the information storage state of said slots.

15. The storage medium set forth in claim 9, wherein said information

entered by said user in said dialogue is voice information entered in natural language, and

wherein said program further comprises the steps of:

converting said the voice information into character information;

and

converting said response information into voice information.

16. The storage medium set forth in claim 9, wherein, in accordance with said information storage state of said slots, said outputting step comprises a step of outputting response information for requesting said user to enter information items that are insufficient to achieve the aim of the dialogue with said user.

17. A method for processing a dialogue with a user, said method comprising the steps of:

ensuring a plurality of slots on a storage device, each said slot being a storage area for storing a preset information item which is required to achieve an aim of said dialogue with said user;

extracting information corresponding to said information item from information entered by said user in said dialogue and storing the extracted information in the slot for that information item; and

outputting response information to said user in accordance with information storage state of said slots.

18. The method set forth in claim 17, further comprising the steps of:

extracting information corresponding to information items insufficient to achieve the aim of the dialogue with said user by using information stored in said slots and information stored in a knowledge base relating to the dialogue with said user; and

storing the extracted information in the slot for that insufficient information item.

19. The method set forth in claim 17, further comprising a step of:

confirming conformity of information stored in said slots and the

information stored in a knowledge base relating to the dialogue with said user by using the information stored in said slots and the information stored in said knowledge base.

20. The method set forth in claim 17, wherein said information entered by said user in said dialogue is a sentence in natural language, and wherein said extracting and storing step comprises the steps of:
performing morpheme analysis for said sentence;
performing parsing processing for the results of said morpheme analysis; and
extracting information corresponding to the information item based on the results of the morpheme analysis and the parsing processing by using an extraction rule pre-defined to achieve the aim of the dialogue with said user.

21. The method set forth in claim 17, further comprising the steps of:
determining whether information stored in a knowledge base relating to the dialogue with said user is necessary to be updated if the information items required to achieve the aim of the dialogue with said user are stored in all of said plurality of slots; and
updating said knowledge base in accordance with a predetermined rule if it is determined that the information stored in said knowledge base is necessary to be updated.

22. The method set forth in claim 17, wherein said outputting step comprises the steps of:
determining the information storage state of said slots; and
acquiring and outputting response information for the user in correspondence with the information storage state of the slots from a response information storage device for storing response information for a user in correspondence with the information storage state of said slots.

23. The method set forth in claim 17, wherein said information entered by said user in said dialogue is voice information entered in natural

language, and wherein said method further comprises the steps of:

converting said the voice information into character information;

and

converting said response information into voice information.

24. The method set forth in claim 17, wherein, in accordance with said information storage state of said slots, said outputting step comprises a step of outputting response information for requesting said user to enter information items that are insufficient to achieve the aim of the dialogue with said user.

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